FIG. 1

LIQUID CRYSTAL POLARITY INVERSION SIGNAL M	H		L	
	COM VOLTAGE (VCOM)	SEGMENT VOLTAGE (VSEG)	COM VOLTAGE (VCOM)	SEGMENT VOLTAGE (VSEG)
SELECTION	VSS	V0	V0	VSS
NON-SELECTION	V1	V2	V4	V3

FIG. 2

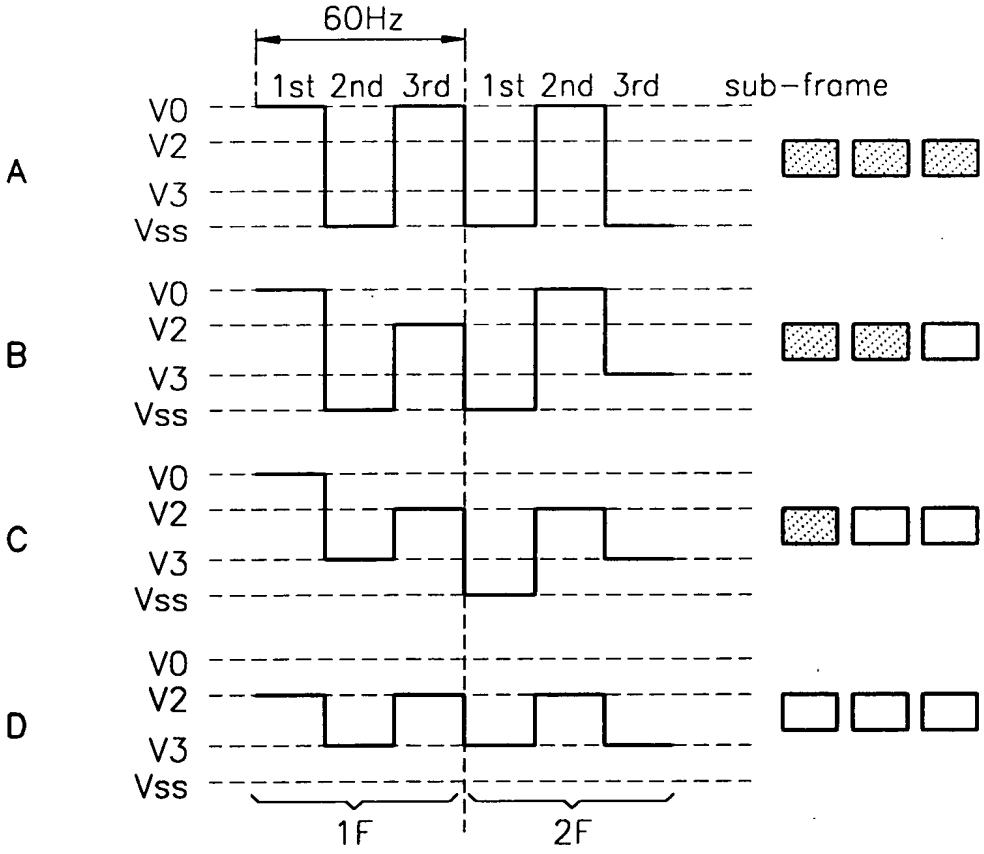


FIG. 3

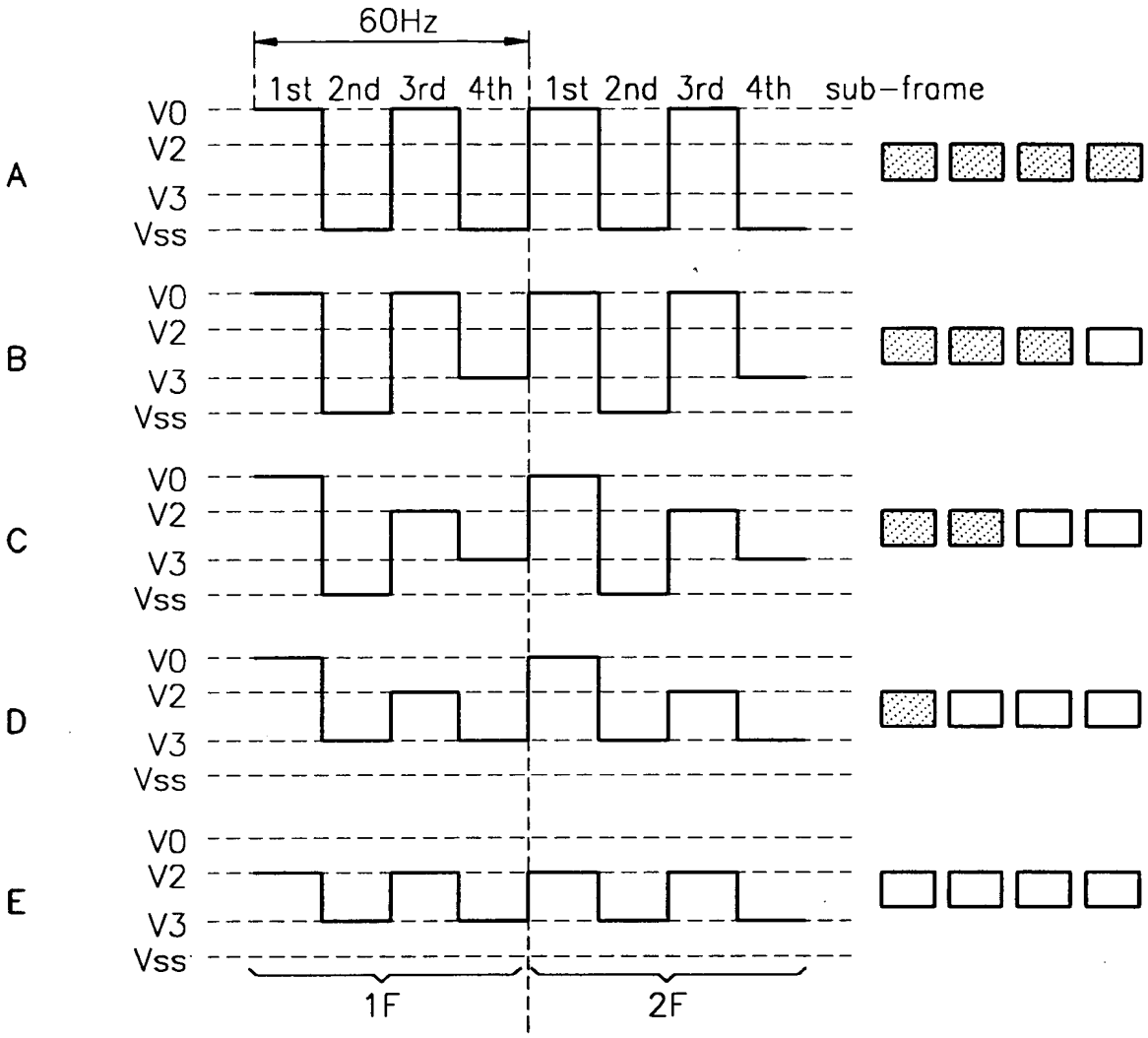

60Hz
1st 2nd 3rd 4th 1st 2nd 3rd 4th sub-frame
A
B
C
D
E
V0
V2
V3
Vss
1F
2F

FIG. 4

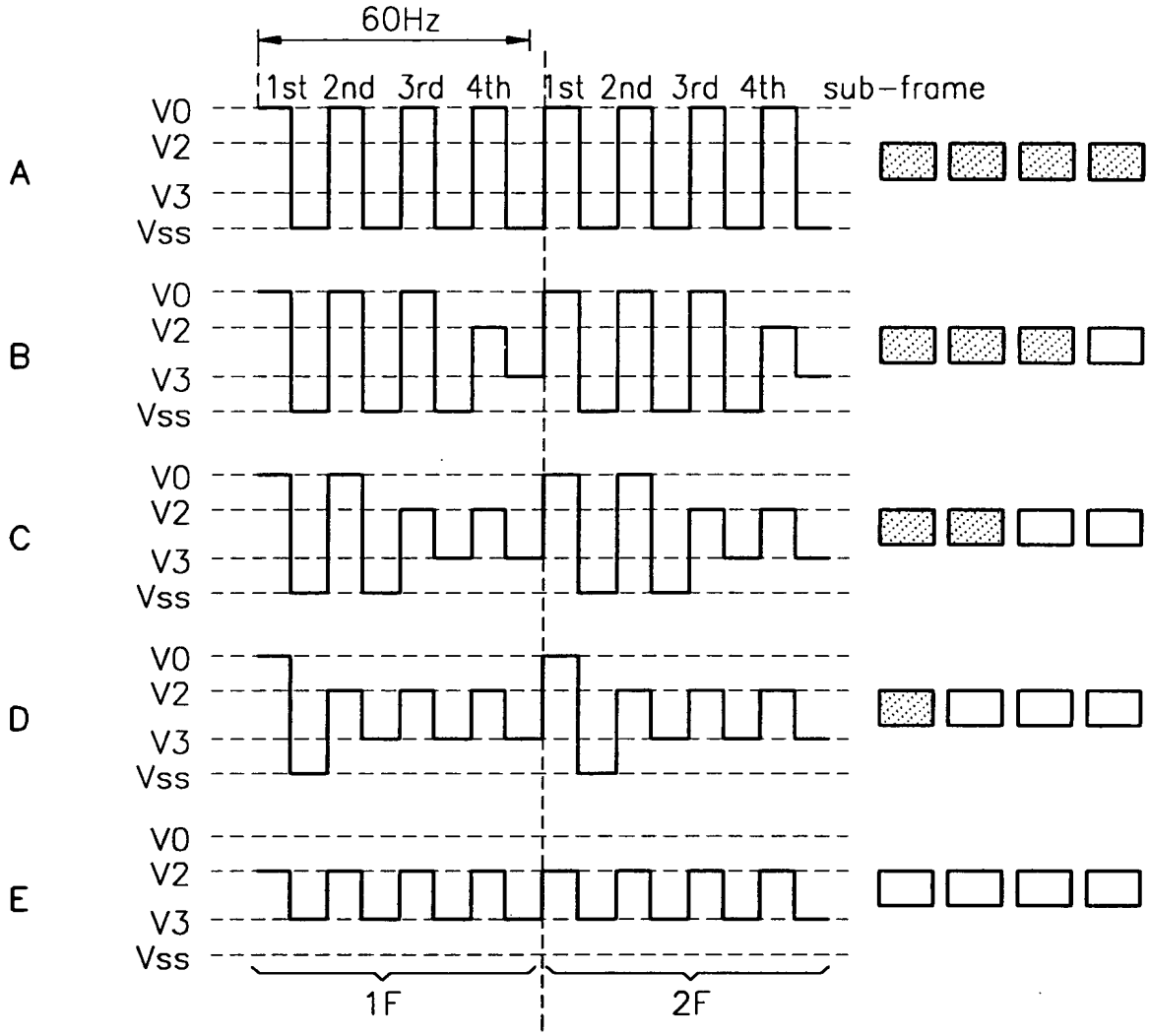

60Hz
1st 2nd 3rd 4th 1st 2nd 3rd 4th sub-frame
A
B
C
D
E
V0
V2
V3
Vss
1F
2F

FIG. 5

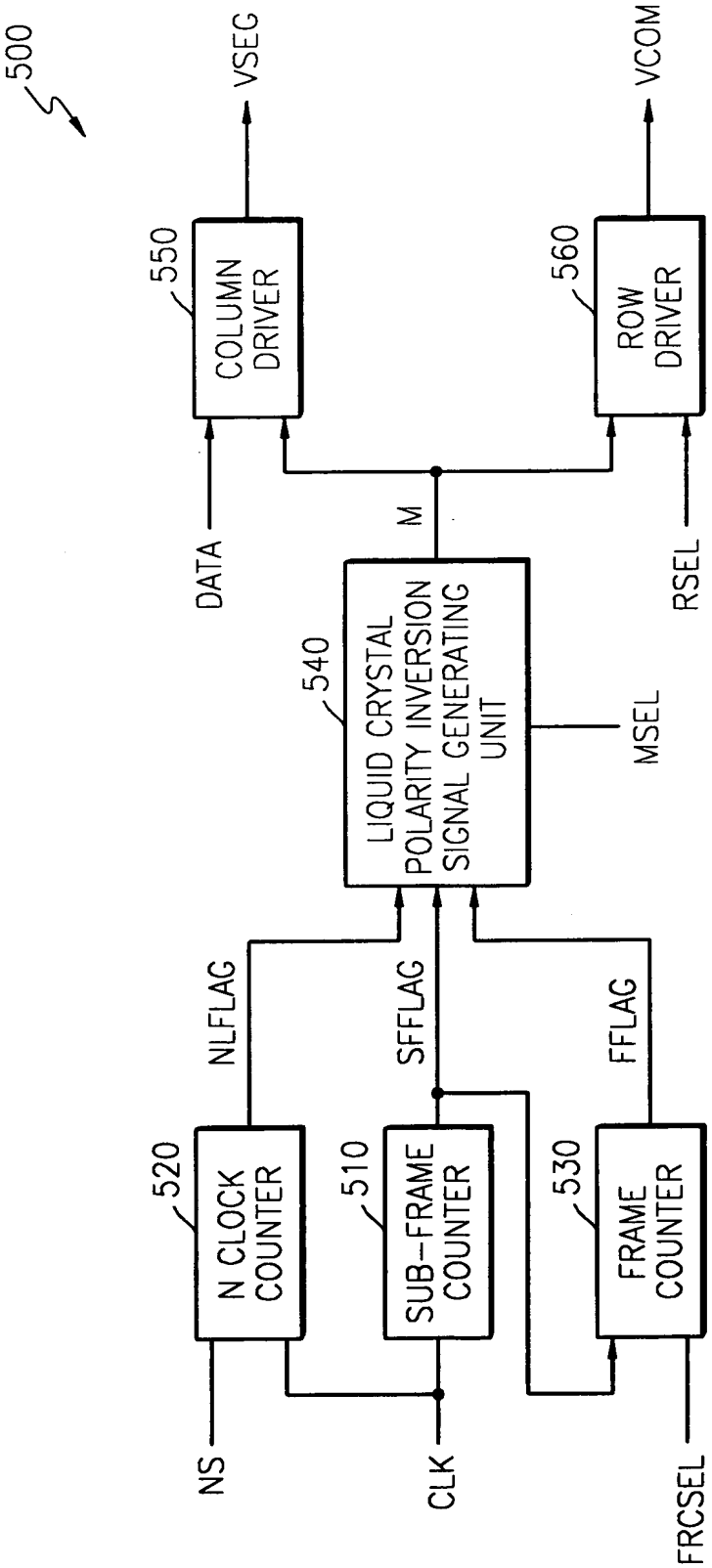

500
VSEG
VCOM
550
COLUMN DRIVER
560
ROW DRIVER
DATA
M
RSEL
540
LIQUID CRYSTAL POLARITY INVERSION SIGNAL GENERATING UNIT
MSEL
NLFLAG
SFFLAG
FFLAG
520
N CLOCK COUNTER
510
SUB-FRAME COUNTER
530
FRAME COUNTER
NS
CLK
FRCSEL

FIG. 6

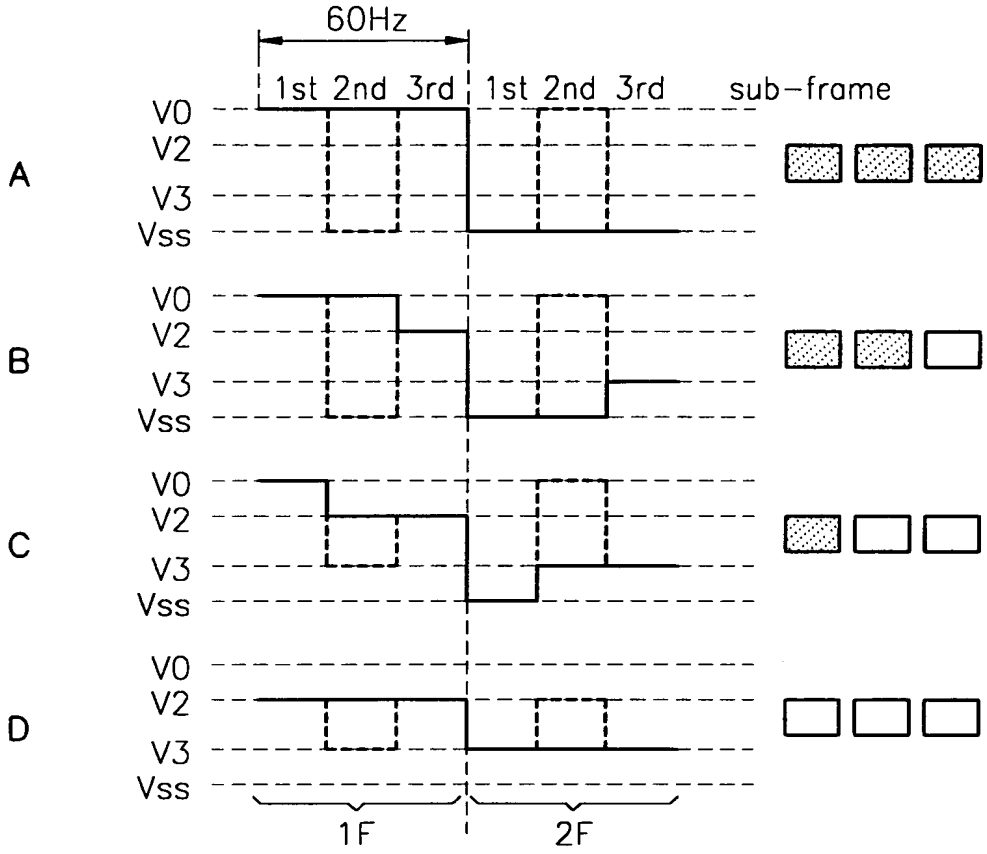


FIG. 7

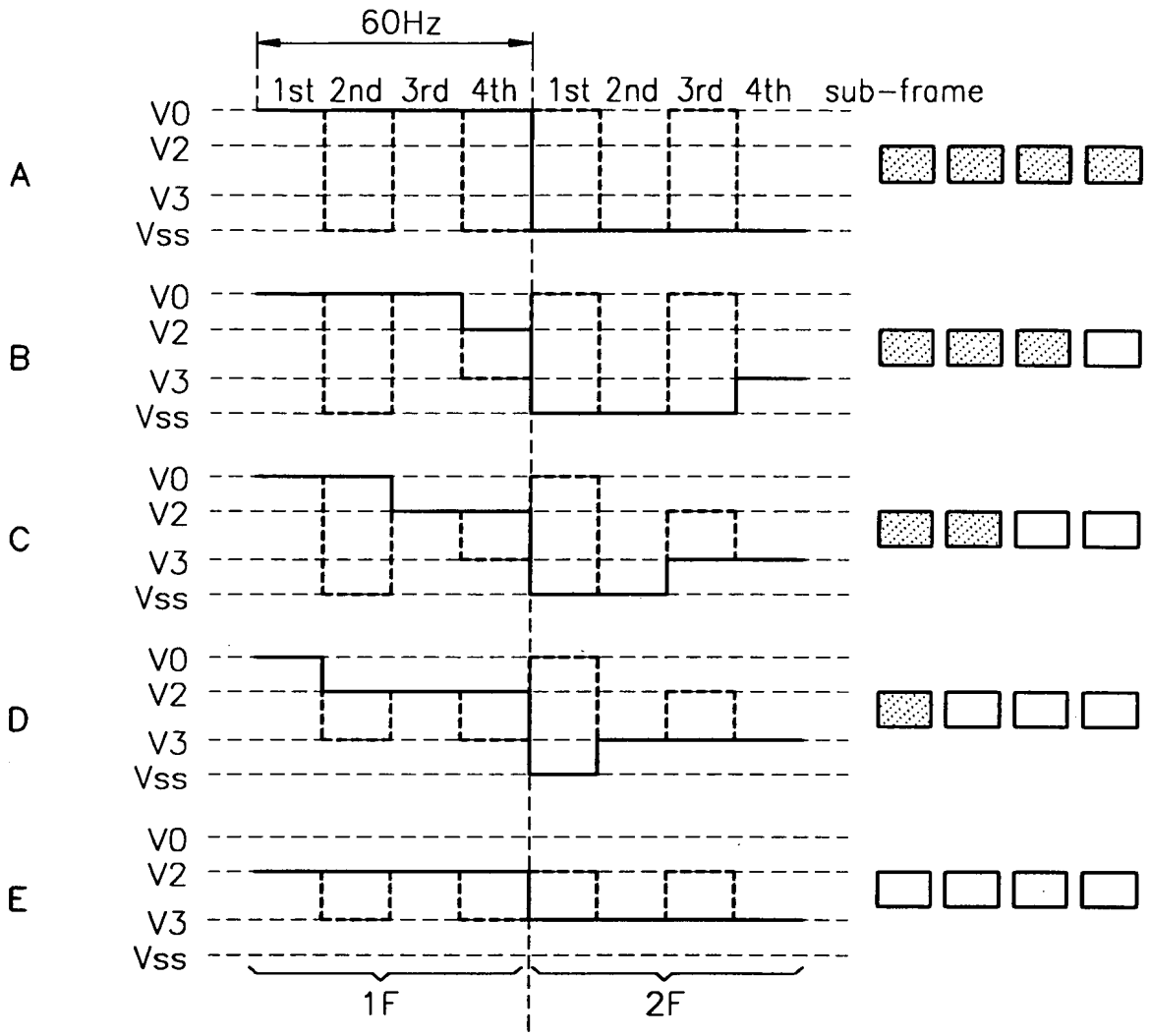

60Hz
1st 2nd 3rd 4th 1st 2nd 3rd 4th sub-frame
A
B
C
D
E
V0
V2
V3
Vss
1F
2F

FIG. 8

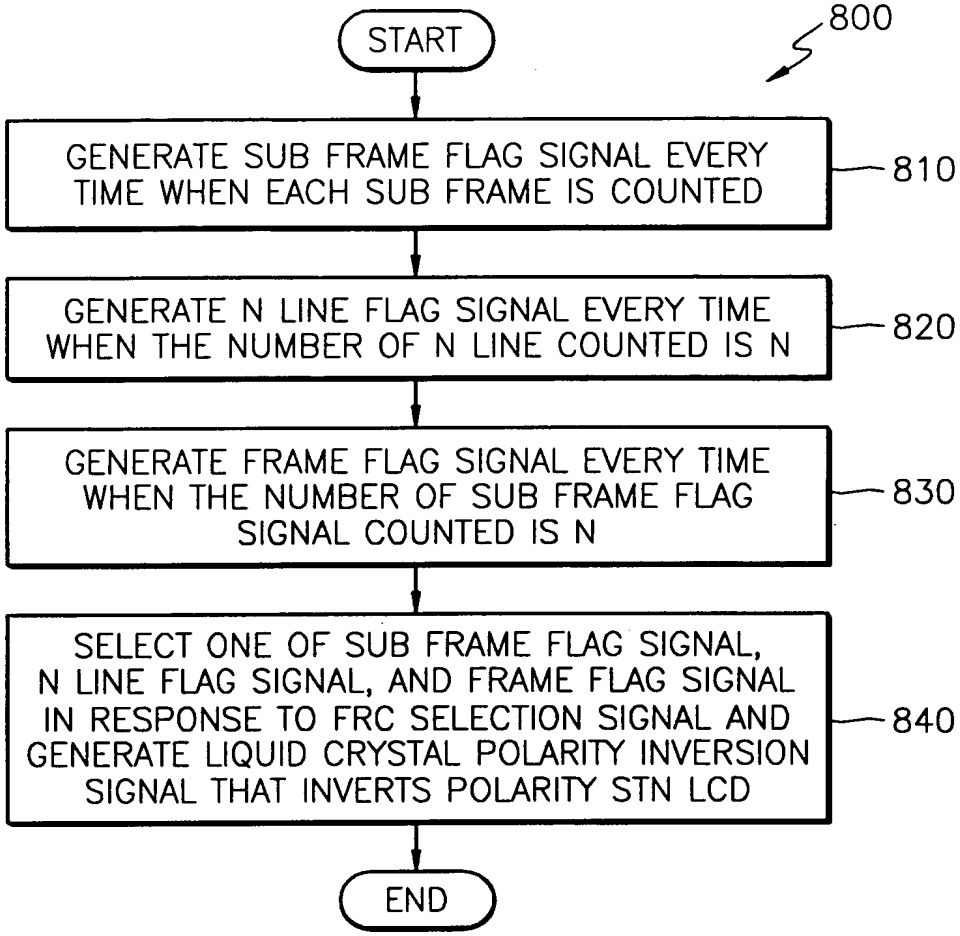

START
800
GENERATE SUB FRAME FLAG SIGNAL EVERY TIME WHEN EACH SUB FRAME IS COUNTED
810
GENERATE N LINE FLAG SIGNAL EVERY TIME WHEN THE NUMBER OF N LINE COUNTED IS N
820
GENERATE FRAME FLAG SIGNAL EVERY TIME WHEN THE NUMBER OF SUB FRAME FLAG SIGNAL COUNTED IS N
830
SELECT ONE OF SUB FRAME FLAG SIGNAL, N LINE FLAG SIGNAL, AND FRAME FLAG SIGNAL IN RESPONSE TO FRC SELECTION SIGNAL AND GENERATE LIQUID CRYSTAL POLARITY INVERSION SIGNAL THAT INVERTS POLARITY STN LCD
840
END

FIG. 9

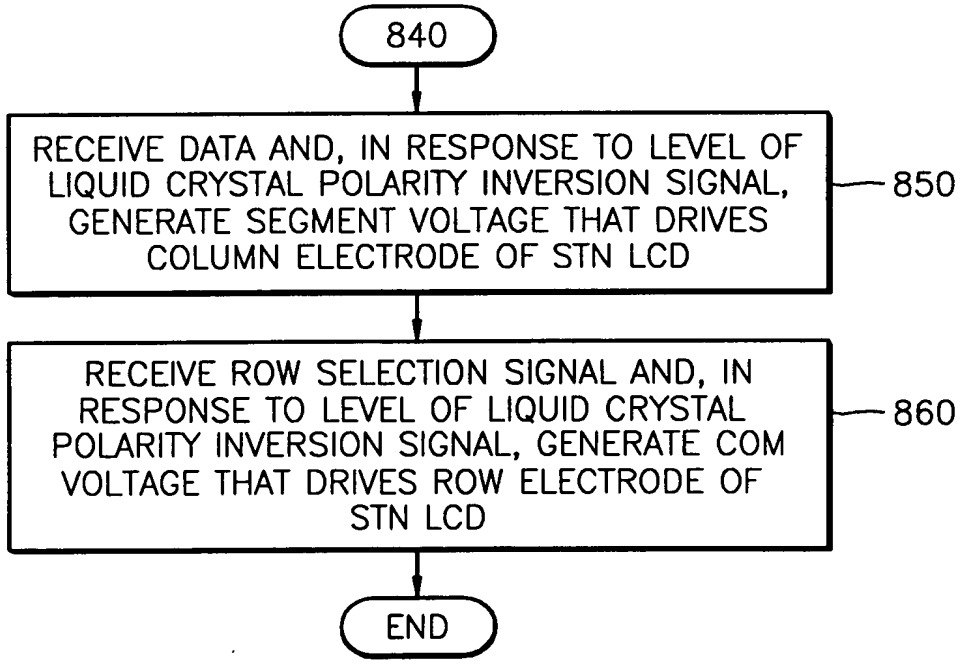

840
RECEIVE DATA AND, IN RESPONSE TO LEVEL OF LIQUID CRYSTAL POLARITY INVERSION SIGNAL, GENERATE SEGMENT VOLTAGE THAT DRIVES COLUMN ELECTRODE OF STN LCD
850
RECEIVE ROW SELECTION SIGNAL AND, IN RESPONSE TO LEVEL OF LIQUID CRYSTAL POLARITY INVERSION SIGNAL, GENERATE COM VOLTAGE THAT DRIVES ROW ELECTRODE OF STN LCD
860
END

FIG. 10

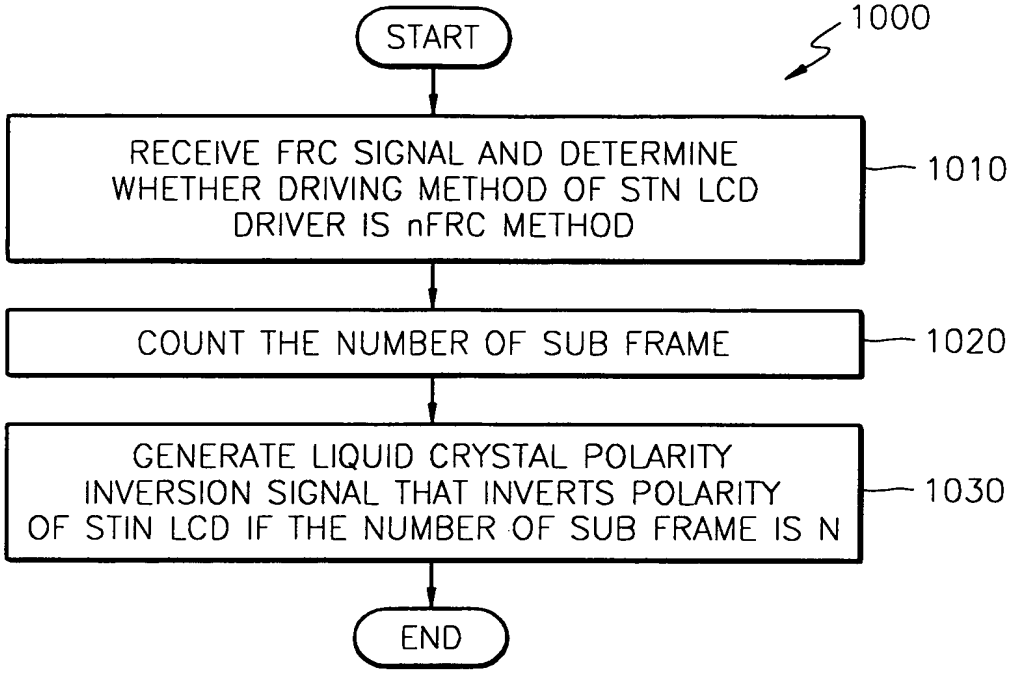
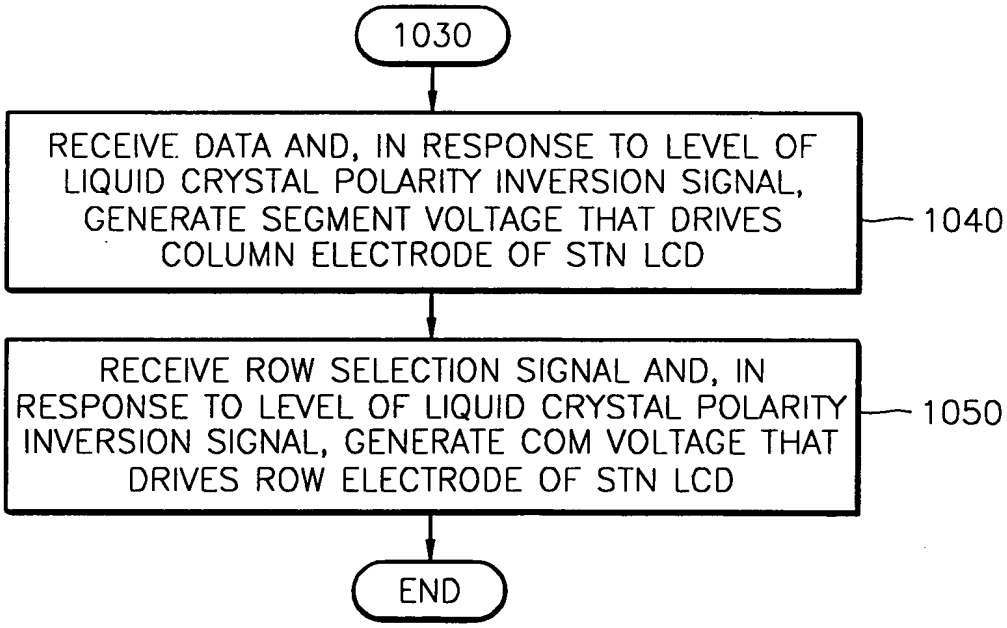

START
1000
RECEIVE FRC SIGNAL AND DETERMINE WHETHER DRIVING METHOD OF STN LCD DRIVER IS nFRC METHOD
1010
COUNT THE NUMBER OF SUB FRAME
1020
GENERATE LIQUID CRYSTAL POLARITY INVERSION SIGNAL THAT INVERTS POLARITY OF STIN LCD IF THE NUMBER OF SUB FRAME IS N
1030
END

FIG. 11


1030
RECEIVE DATA AND, IN RESPONSE TO LEVEL OF LIQUID CRYSTAL POLARITY INVERSION SIGNAL, GENERATE SEGMENT VOLTAGE THAT DRIVES COLUMN ELECTRODE OF STN LCD
1040
RECEIVE ROW SELECTION SIGNAL AND, IN RESPONSE TO LEVEL OF LIQUID CRYSTAL POLARITY INVERSION SIGNAL, GENERATE COM VOLTAGE THAT DRIVES ROW ELECTRODE OF STN LCD
1050
END